

PART I - THE SCHEDULE

SECTION C THE DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

Contractor shall furnish all labor, equipment, and supplies to provide forest inventory services in various locations on _____ in accordance with specifications.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT MEASURE	UNIT PRICE
0001	Cruise Timber		ACRE	

PART I THE SCHEDULE

SECTION C - DESCRIPTIONS/SPECIFICATION/WORK STATEMENT

Technical Provisions
Table of Contents

Section	Section Title	Page Numbers
1	General	C- 1 thru C-2
2	Management	C- 3 thru C4
3	Timber Inventorying Requirements	C- 5 thru C-6
Exhibits		
A	Timber Stand List and Maps	

TECHNICAL PROVISIONS
SECTION 1
GENERAL

TP-1.0 Purpose: The purpose of this contract is to perform forest inventory (cruising) services on U.S. Army Corps of Engineers Land at _____. The majority of timber inventory work will be performed in natural pine stands; however, some work will be required in mixed pine hardwood stands.

TP-1.1 Scope: Task to be performed shall include the inventory of timber stands to determine cut volume, residual stand volume estimates, age, and growth data.

TP-1.2 Applicable Documents and References: The following individual standards and codes, manuals, and other documents shall apply to performance:

- a. "Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects."
- b. EM 385 -1-1 "Safety and Health Requirements Manual" (Latest Edition)
- c. "Occupational Safety and Health Act (OSHA) Standards"

TP-1.3 Pre-Work Conference: The contractor shall attend a pre-work conference within **one week** of award at which time the lines of authority and Government procedures for contractual, administrative, and work matters will be established. A review of critical aspects of the contract will be conducted as well as attention brought to specific FAR, Technical and Special Contract Clauses.

TP-1.4 Contractor Items: The contractor shall submit at the pre-work conference the following items:

- a. Certificate of Insurance
- b. Letter of Appointment for Superintendent
- c. Accident Prevention Plan
- d. List of Proposed Subcontractors
- e. Registered Forester Certification
- g. Resume of forestry experience in _____ United States (including references).

TP-1.5 Location: The work shall be done on U.S. Army Corps of Engineers lands, _____, in _____ County, _____. Site maps can be found in Exhibit "A" of these specifications.

TP-1.6 Work and Services: The contractor shall furnish all labor, equipment, flagging tape, and other supplies to provide forest inventory services as described.

TP-1.7 Normal Working Days: Normal work days shall be Monday through Friday. Weekend work will be allowed if the Contracting Officer (CO) is notified no later than 4:00 p.m. on the preceding Thursday. To avoid unnecessary inspection, the contractor shall notify the CO at least 24 hours in advance if he will not be working on the contract for a period longer than two (2) working days.

TECHNICAL PROVISIONS SECTION 2

MANAGEMENT

TP-2.0 Scope of Work: The contractor shall provide management services for all tasks related to the operation and work included in this contract.

TP-2.1 Supervision: The contractor shall give his personal superintendence to the work or appoint a competent superintendent to be on site at all times. The superintendent must have the authority to act on behalf of the contractor in matters of quality of work, direction of work or scheduling changes. Appointment of supervision must be documented and a letter of appointment provided at the pre-work meeting.

TP-2.2 Technical Supervision: All work performed under the terms of this contract shall be controlled and managed by at least one professional Forester possessing a Bachelor of Science degree in Forestry. This supervisor is not required to be at the job site at all times, but is responsible for ensuring that all work is performed under his/her supervision and meets contract specifications.

TP-2.2.1 At the prework meeting, the contractor shall submit a qualification statement and credentials for Technical Supervision personnel. These credentials shall be revised in the event contractor personnel changes occur during the life of the base contract or option periods.

TP-2.3 Records: With the submission of each payment request, the contractor shall provide the CO the following records for the work performed:

TP-2.3.1 Age and growth data, inventory tally data, tally summaries gathered for pulpwood, chip and saw, or sawtimber on each stand shall be recorded on digital format.

TP-2.4 Method of Payment: An invoice for work performed may be submitted by the contractor on a monthly basis. Invoices will itemize work with corresponding stand numbers.

TP-2.5 Order of work: The order in which the tracts are to be inventoried shall be determined by the Contractor. Detailed maps, GIS produced USGS quad sheets, and GIS produced aerial photographs for timber inventorying will be provided during the prework meeting. The Government reserves the right to change the order of work where immediate tree removal may be required.

TP-2.6 Schedule of work

TP-2.6.1 All timber inventorying shall be completed by _____.

TP-2.6.2 Within 5 working days following the Pre-Work Meeting and prior to beginning actual field work, the contractor shall provide to the CO for approval, a work/progress schedule indicating a **progressive** approach to completing 50% of the contract quantity by _____ and the remaining 50% by the end of the contract period.

TP-2.6.3 The contractor shall also provide to the CO by Monday of each week, work schedules that indicate locations where cruising will be performed and number of personnel expected to be performing the work.

TECHNICAL PROVISIONS

SECTION 3

Timber Inventory Requirements

TP-3.1 Estimated Quantities: A total of _____ acres will be inventoried in Compartment ___, _____ County, _____. The work areas consist of ___ stands from _____ to _____ acres in size. A list and maps of stands to be inventoried is found in Exhibit A.

TP-3.1 Inventory Methods: Inventory work shall be done in stands needing thinning to determine cut and residual volumes. Certain stands have been identified as seed tree regeneration harvests and residual volume will be determined by ringed trees only. The Government reserves the right to change inventory methods on particular stands when an alternative method is advantageous.

TP-3.1.1 The contractor shall establish a baseline in each stand from which a line-plot system shall be laid out for taking 1/10 acre fixed plots. Plots shall be spaced as evenly as practical to provide a 5% survey of all merchantable pine trees and hardwood trees.

TP-3.1.2 Tree selections for cut volume shall be made using criteria in paragraphs TP-3.4. All remaining merchantable trees shall be tallied as residual volume in the same diameter classes as required for the cut volume.

TP-3.2 Cruise Line and Plot Identification: Cruise lines and plots shall be identified by the placement of bright pink or bright red flagging in the following manner.

TP-3.2.1 The contractor shall establish and number cruise lines which shall run perpendicular to ridges if possible. The contractor shall also number plots. The line azimuth shall be written on baseline/cruise line intersect streamer's which shall be placed at each base line/cruise line intersect.

TP-3.2.2 A separate tally shall be completed for each plot and numbered with the established line/plot number. Plot information shall be recorded and submitted in a digital format. The Government will establish a number for each stand for identification. The stand, line, and plot number shall be recorded on each plot tally.

TP-3.2.3 A one foot square area of soil at the plot center shall be cleared of debris, down to mineral soil and a short piece of plastic flagging will be pinned in place at the plot center with a minimum, 16d nail. The line/plot number shall be written on each plot center ribbon. A streamer ribbon with line/plot number shall be attached to nearest tree or shrub limb for easy spotting.

TP-3.2.4 Streamer ribbons will be tied to the nearest tree or shrub limbs to mark two opposite sides of the plot boundary.

TP-3.3 Volume Determinations: Scribner Decimal C/Form Class 78 table shall be used for estimating sawtimber volumes. Local volume table shall be used to determine chip and saw and pulpwood volumes. The Government will furnish these local volume tables.

TP-3.4 Selection Criteria: Stands in need of thinning, typically have a basal area (BA) ranging from 100-140 plus sq. ft. In most stands, the desired residual stand BA will be 40 to 70 sq. ft. Cut volume shall be determined on the following criteria:

TP-3.4.1 Cut volume's shall be determined based on stands being overstocked, trees tallied for removal are diseased, suppressed, crooked, or forked.

TP-3.4.2 Areas in stands where trees are badly diseased, crooked, or forked shall be tallied for removal regardless of the BA.

TP-3.4.3 Slower growing, co-dominant trees shall be tallied for harvest, when additional tree removal is warranted to bring the BA down to between 40 and 70 sq. ft.

TP-3.4.4 All elm, cottonwood, poplar and sweetgum in excess of 6" DBH shall be tallied as hardwood pulpwood. All other hardwoods of merchantable size will be surveyed and tallied as residual volume.

TP-3.5 Pine Sawtimber Tallies: Sawtimber tallies shall be made in one-inch numbered diameter classes and totaled for each class and shall be tallied by logs and half logs. Minimum sawtimber tally size is 14" DBH by one 16' log to an 8" top of the log inside the bark.

TP-3.6 Pine Pulpwood and Chip and Saw Tallies: These tallies shall be made by the cord measured in 5' bolts. Pulpwood and chip and saw tallies shall be made in 1" classes. The minimum Pine Chip and Saw size is 10" dbh with a minimum 26' length to 5" inside bark, top diameter. Straight trees 10" to 13.9" DBH shall be tallied as chip and saw.

TP-3.6.1 Minimum pulpwood tally size for pine is 5" DBH with a minimum height of 20 ft. with a minimum top diameter of 4" inside the bark.

TP-3.6.2 Minimum size for hardwood pulpwood is 6" DBH with a minimum height of 20 ft. to a 5" top.

TP-3.7 Growth and age data collection: Age and growth data shall be collected on all stands.

TP-3.7.1 Selection Criteria: No more than five sample trees per stand shall have age and growth data collected. Only one sample tree per plot shall be allowed. The sample trees shall be chosen by random by the contractor. The chosen tree must be a co-dominant pine within the 1/10 ac plot. Flagging shall be placed around the tree.

TP-3.7.2 Collection of data: The age of the tree, the thickness of the bark, radial growth for the last 5 years in inches shall be recorded in digital format.

Exhibit A

Stand Number	Acres
Total=	

